

IN THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

- 1 1. (Currently Amended) A circuit for providing write pre-compensation
- 2 utilizing read signal timing, comprising:
 - 3 a first phase clock source for generating a first clock signal having a first phase
 - 4 and being synchronized with a read signal of the read path;
 - 5 a second phase clock source for generating a second clock signal having a second
 - 6 phase at a predetermined phase difference with the first clock signal; and
 - 7 a write pre-compensation circuit for using the first and second clock signals to
 - 8 shift write data to achieve write data comprising a first desired pre-compensation;
 - 9 wherein the second phase clock source generates the second clock signal in
 - 10 response to a read phase select position signal from the read path and a write phase select
 - 11 position signal.
- 1 2. (Canceled)

1 3. (Currently Amended) The circuit of claim [[2]] 1, wherein the write pre-
2 compensation circuit further comprises:
3 write logic for receiving write data;
4 a first and second latch, coupled to the write logic, the first and second latch
5 receiving the write data from the write logic and using the first clock signal to supply a
6 first data signal and using the second clock signal to supply a second data signal; and
7 a data selector, coupled to the write logic, for receiving a data select signal from the
8 write logic and outputting the first or second data signal based on a state of the data select
9 signal.

1 4. (Original) The circuit of claim 1, wherein the write pre-compensation
2 circuit further comprises:
3 write logic for receiving write data;
4 a first and second latch, coupled to the write logic, the first and second latch
5 receiving the write data from the write logic and using the first clock signal to supply a
6 first data signal and using the second clock signal to supply a second data signal; and
7 a data selector, coupled to the write logic, for receiving a data select signal from
8 the write logic and outputting the first or second data signal based on a state of the data
9 select signal.

1 5. (Original) The circuit of claim 1 further comprising a coarse phase clock
2 source, wherein the first and second phase clock sources are first and second fine phase
3 clock sources, the first and second fine phase clock sources generating the first and
4 second clock signals based on a coarse phase signal from the coarse phase clock source.

1 6. (Original) The circuit of claim 1, wherein the second phase clock source
2 follows the phase of the first clock phase source during a read operation.

1 7. (Original) The circuit of claim 6, wherein the phase difference between
2 the second phase clock source and the first phase clock source is maintained.

1 8. (Original) The circuit of claim 1, wherein the phase difference between
2 the second phase clock source and the first phase clock source is maintained.

1 9. (Original) The circuit of claim 1, wherein the first and second phase are
2 changed to provide write data comprising a second desired pre-compensation.

1 10. (Original) The circuit of claim 1 further comprising at least one additional
2 phase clock source, the at least one additional phase clock source providing at least one
3 additional pre-compensation state.

1 11. (Currently Amended) A magnetic storage device, comprising:

2 a magnetic storage medium for recording data thereon;

3 a motor for moving the magnetic storage medium;

4 a head for reading and writing data on the magnetic storage medium;

5 an actuator for positioning the head relative to the magnetic storage medium; and

6 a data channel for processing encoded signals on the magnetic storage medium,

7 the data channel comprising a first phase clock source for generating a first clock signal

8 having a first phase and being synchronized with a read signal of the read path, a second

9 phase clock source for generating a second clock signal having a second phase at a

10 predetermined phase difference with the first clock signal and a write pre-compensation

11 circuit for using the first and second clock signals to shift write data to achieve write data

12 comprising a first desired pre-compensation, wherein the second phase clock source

13 generates the second clock signal in response to a read phase select position signal from

14 the read path and a write phase select position signal.

1 12. (Canceled)

1 13. (Original) The magnetic storage device of claim [[12]] 11, wherein the
2 write pre-compensation circuit further comprises:
3 write logic for receiving write data;
4 a first and second latch, coupled to the write logic, the first and second latch
5 receiving the write data from the write logic and using the first clock signal to supply a
6 first data signal and using the second clock signal to supply a second data signal; and
7 a data selector, coupled to the write logic, for receiving a data select signal from
8 the write logic and outputting the first or second data signal based on a state of the data
9 select signal.

1 14. (Original) The magnetic storage device of claim 11, wherein the write
2 pre-compensation circuit further comprises:
3 write logic for receiving write data;
4 a first and second latch, coupled to the write logic, the first and second latch
5 receiving the write data from the write logic and using the first clock signal to supply a
6 first data signal and using the second clock signal to supply a second data signal; and
7 a data selector, coupled to the write logic, for receiving a data select signal from
8 the write logic and outputting the first or second data signal based on a state of the data
9 select signal.

1 15. (Original) The magnetic storage device of claim 11 further comprising a
2 coarse phase clock source, wherein the first and second phase clock sources are first and
3 second fine phase clock sources, the first and second fine phase clock sources generating
4 the first and second clock signals based on a coarse phase signal from the coarse phase
5 clock source.

1 16. (Original) The magnetic storage device of claim 11, wherein the second
2 phase clock source follows the phase of the first clock phase source during a read
3 operation.

1 17. (Original) The magnetic storage device of claim 16, wherein the phase
2 difference between the second phase clock source and the first phase clock source is
3 maintained.

1 18. (Original) The magnetic storage device of claim 11, wherein the phase
2 difference between the second phase clock source and the first phase clock source is
3 maintained.

1 19. (Original) The magnetic storage device of claim 11, wherein the first and
2 second phase are changed to provide write data comprising a second desired pre-
3 compensation.

1 20. (Original) The magnetic storage device of claim 11 further comprising at
2 least one additional phase clock source, the at least one additional phase clock source
3 providing at least one additional pre-compensation state.

1 21. (Currently Amended) A method for providing write pre-compensation
2 utilizing read signal timing, comprising:
3 generating a first phase clock signal having a first phase and being synchronized
4 with a read signal of a read path;
5 generating a second phase clock signal having a second phase at a predetermined
6 phase difference with the first clock signal; and
7 using the first and second clock signals to shift write data to achieve write data
8 comprising a first desired pre-compensation;
9 wherein the generating the second clock signal is based on a read phase select
10 position signal from the read path and a write phase select position signal.

1 22. (Canceled)

1 23. (Original) The method of claim [[22]] 21, wherein the using the first and
2 second clock signals to shift write data to achieve write data comprising a first desired
3 pre-compensation further comprises:
4 receiving write data;
5 providing the write data to a first latch and a second latch;
6 using the first clock signal to latch the first latch to supply a first data signal;
7 using the second clock signal to latch the second latch to supply a second data
8 signal; and
9 outputting the first or second data signal based on a state of a received data select
10 signal.

1 24. (Original) The method of claim 21, wherein the write pre-compensation
2 circuit further comprises:
3 receiving write data;
4 providing the write data to a first latch and a second latch;
5 using the first clock signal to latch the first latch to supply a first data signal;
6 using the second clock signal to latch the second latch to supply a second data
7 signal; and
8 outputting the first or second data signal based on a state of a received data select
9 signal.

1 25. (Original) The method of claim 21, wherein the generating a first phase
2 clock signal and generating a second phase clock signal further comprises:
3 generating a coarse phase clock signal;
4 generating the first and second phase clock signals based on the coarse phase
5 clock signal.

1 26. (Original) The method of claim 21, wherein the generating a first phase
2 clock signal and generating a second phase clock signal further comprises generating the
3 second the second phase clock signal with a phase that follows the phase of the first clock
4 phase signal during a read operation.

1 27. (Original) The method of claim 26, wherein the generating a first phase
2 clock signal and generating a second phase clock signal further comprises maintaining
3 the phase difference between the second phase clock signal and the first phase clock
4 signal.

1 28. (Original) The method of claim 21, wherein the generating a first phase
2 clock signal and generating a second phase clock signal further comprises maintaining
3 the phase difference between the second phase clock signal and the first phase clock
4 signal.

1 29. (Original) The method of claim 21, wherein the generating a first phase
2 clock signal and generating a second phase clock signal further comprises changing the
3 phase of the first and second phase clock signals to provide write data comprising a
4 second desired pre-compensation.

1 30. (Original) The method of claim 21 further comprising generating at least
2 one additional phase clock signal for providing at least one additional pre-compensation
3 state.